Absolute continuity of polynomially bounded tuples

Sebastian Foks (AGH University of Krakow, Kraków, Poland)

The problem of absolute continuity for tuples of operators is studied. While prior work [1] established the equivalence between absolute continuity and Apostol's condition for tuples of commuting contractions in Hilbert space, satisfying von Neumann's inequality, a generalization to polynomially bounded tuples requires a different approach. Using properties of Henkin measures [2], we show that Apostol's condition is equivalent to absolute continuity in the general case of polynomially bounded tuples of commuting Banach space contractions. This condition is verified for a triple of contractions for which von Neumann's inequality fails.

The talk is based on joint work with Krzysztof Rudol.

[1] M. Kosiek, A. Octavio, *Representations of $H^\infty(D^N)$, and absolute continuity for N-tuples of contractions*, Houston J. of Math. **23**, (1997), 529-537

[2] J. Eschmeier, *Invariant subspaces for commuting contractions*, J.Operator Theory 45 (2001), 413-443